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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,996	11/20/2001	Shahzad Khalid	A-69426/MAK/WEN	2452

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EXAMINER

YOHA, CONNIE C

ART UNIT	PAPER NUMBER
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2818

DATE MAILED: 04/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/989,996		KHALID, SHAHZAD	
	Examiner		Art Unit	
	Connie c. Yoha		2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9-18 is/are rejected.
- 7) ☐ Claim(s) 5-8 and 19-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-22 are presented for examination.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of the multi-state further comprising a plurality of multi-state memory cells capable of storing data therein cited in claim 9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-4, and 9-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Guterman et al, Pat. No. 6317364.

With regard to claim 3 and 18, Guterman discloses a sense amplifier to read a multi-state memory cell having a field effect transistor (FET) with a source, a drain and a bit-line, the sense amplifier comprising: a cascode device (fig. 1a, ISOLATION

DEVICE) coupled to the drain of the FET of the memory cell (fig. 1a, 102), the cascode device adapted to increase the resolution of the sense amplifier during a read mode and to isolate the sense amplifier from a high voltage applied to the memory cell during a write mode; and a pre-charge circuit (fig. 1a, 104, 105, 106) couple to the cascode device (fig. 1a, ISOLATION DEVICE), the pre-charge circuit configured to pre-charge the bit-line (fig. 1a, 101) of the memory cell through the cascode device during a pre-charge mode to reduce time required to read the multi-state memory cell.

With regard to claim 4, Guterman discloses wherein the cascode device (fig. 1a, ISOLATION DEVICE) is coupled in series between the pre-charge circuit and the drain of the FET in the memory cell (fig. 1a).

With regard to claim 9, Guterman discloses the multi-state memory further comprising: a plurality of multi-state memory cells capable of storing data therein; and a high-voltage supply for writing data to the multi-state memory cells (col., line 15-16).

Drafted as Method claim

As per claim 1-2, and 10-17 encompass the same scope of invention as to that of claim 3, 9, and 18 except they draft in method format instead of apparatus format. The claim is therefore rejected for the same reason as set forth above.

Allowable Subject Matter

4. Claims 5-8 and 19-22 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not show the limitation of the pre-charge circuit includes a unit gain buffer having an input to which a predetermined reference voltage is applied, and an output coupled to provide a bias current to the cascode device to pre-charge the bit-line by charging a node of the cascode device to the predetermined reference voltage.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Conte et al (6320808) and Harari (6504762) disclose a memory device.

6. When responding to the office action, Applicants' are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

7. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02 (b)).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to whose telephone number is (703) 306-5731. The examiner can normally be reached on Mon. - Fri. from 8:00 A.M. to 5:30 PM. The


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examiner's supervisor, David Nelms, can be reached on (703) 308-4910. The fax phone number for this Group is (703) 308-7722. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-0956.


C. Yoha

April 2003


Connie C. Yoha

Patent Examiner

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